

Form PTO-1449 (Modified)

Atty. Docket No.
1856-23101
(9595.0-01)

Serial No.
10/747,718

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Use several sheets if necessary)

Applicant
Rafael L. Espinoza et al.

Filing Date
December 29, 2003

Group
755 (1754)

REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
WAL	AA	4,601,859	07/22/86	Galle et al.	558	459	
WAL	AB	5,431,855	7/11/95	Green	252	373	
WAL	AC	5,447,705	9/5/95	Petit	423	418.2	
WAL	AD	5,500,149	3/19/96	Green	252	373	
WAL	AE	5,510,056	4/23/96	Jacobs	252	373	
WAL	AF	5,648,582	7/15/97	Schmidt	585	652	
WAL	AG	5,149,464	9/22/92	Green	252	373	
WAL	AH	5,023,276	6/11/91	Yarrington	514	703	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	Translation YES NO
WAL	AI	WO9301130	1/21/93	PCT	C01B	31/18	
WAL	AJ	EP0303438	2/15/89	EPO	C01B	3/38	

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

WAL	AK	Geankoplis, Christie J.; <i>Transport Processes and Unit Operations</i> ; p. 837; 1983. (no month)
WAL	AL	Maximilian Fichtner, et al; <i>Microstructured Rhodium Catalysts for the Partial Oxidation of Methane to Syngas Under Pressure</i> ; Ind. Eng. Chem. Res. 2001, 40:3475-3483. (no month)
WAL	AM	A.G. Dietz III and L.D. Schmidt; <i>Effect of Pressure on Three Catalytic Partial Oxidation Reactions at Millisecond Contact Times</i> ; Catalysis Letters 33 (1995) 15-29. (no month)
WAL	AN	A.T. Ashcroft, et al; <i>Selective Oxidation of Methane to Synthesis Gas Using Transition Metal Catalysts</i> ; Letters to Nature, Vol. 344, 1990. (no month)
WAL	AO	Patrick D.F. Vernon, et al.; <i>Partial Oxidation of Methane to Synthesis Gas</i> ; Catalysis Letters 6 (1990) 181-186. (no month)
WAL	AP	K.L. Hohn and L.D. Schmidt; <i>Partial Oxidation of Methane to Syngas at High Space Velocities Over Rh-coated Spheres</i> ; Applied Catalysis A: General 211 (2001) 53-68. (no month)
WAL	AQ	Jacek A. Lapszewicz and Xuan-Zhen Jiang; <i>Characteristics and Performance of Catalysts for Partial Oxidation of Natural Gas to Syngas</i> ; Symposium on Chemistry and Characterization of Supported Metal Catalysts Presented Before the Division of Petroleum Chemistry, Inc., 206 th National Meeting, American Chemical Society, Chicago, IL; August 22-27, 1993.
WAL	AR	A. Cybulski and Jacob A. Moulijn; <i>Structured Catalyst and Reactors: Transformation of Structured Carrier into Structured Catalyst</i> ; Chapter 21, pp 599-615, 1998. (no month)
WAL	AS	Tsang, S.C. et al, <i>Recent Advances in the Conversion of Methane to Synthesis Gas</i> , Catal. Today 23:3-15 (1995). (no month)
WAL	AT	Yuzaki, Koichi et al., <i>Catalytic Decomposition of N₂O Over Supported Rhodium Catalysts: High Activities of Rh/USY and Rh/AL₂O₃ and the Effect of Rh Precursors</i> , Catalysis Letters 47 (1997) 173-175. (no month)
WAL	AU	E. Ruckenstein and H.Y. Wang; <i>Partial Oxidation of Methane to Synthesis Gas Over MgO-supported Rh Catalysts: the Effect of Precursor of MgO</i> ; Applied Catalysis A: General 198 (2000) 33-41. (no month)

EXAMINER

Wayne A. Tangel

DATE CONSIDERED

8-3-06

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.



Form PTO/S449 (Modified)(CONTINUED)

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(9595.0-01)Serial No.
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

Applicant
Rafael L. Espinoza et al.Filing Date
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1755

REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
WAL	AV	5,252,613	10/12/93	Chang et al.	518	700	
WAL	AW	5,382,748	01/17/95	Behrmann et al.	585	899	
WAL	AX	5,348,982	09/20/94	Herbolzheimer et al.	518	700	
WAL	AY	5,827,902	10/27/98	Maretto et al.	518	706	
WAL	AZ	5,961,933	10/05/99	Casanave et al.	422	211	
WAL	BA	6,060,524	05/09/00	Casanave et al.	518	706	
WAL	BB	6,156,809	12/05/00	Clark et al.	518	719	
WAL	BC	6,169,120	01/02/01	Beer	518	715	
WAL	BD	6,403,660 B1	06/11/02	Espinoza et al.	518	700	
WAL	BE	2003/0096881	05/22/03	Minkinen et al.	518	728	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	Translation	
							YES	NO
WAL	BF	WO96/16737	6/6/96	PCT	B01J	37/02		
WAL	BG	WO99/48805	9/30/99	PCT	C01B	3/40		
WAL	BH	0640561	3/1/95	EP	C01B	3/40		
WAL	BI	0333037	9/20/89	EP	C01B	3/40		
WAL	BJ	0974551	1/26/00	EP	C01B	3/40		
WAL	BK	WO 99/37580	07/29/99	PCT	C01B	3/40		
WAL	BL	0 558 343 A1	01.09.93	EP				

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

WAL	BM	(PCT) Results of Partial International Search
WAL	BN	European Search Report, EP 01 97 0632 dated August 14, 2003, 2 pages
WAL	BO	S. Bernal et al., "Influence of the preparation procedure on the chemical and microstructural properties of lanthana promoted Rh/SiO ₂ catalysts A FTIR spectroscopic study of chemisorbed CO", Journal of Alloys and Compounds 250 (1997) 461-466, (no month)
WAL	BP	Michael F. Mark et al., "CO ₂ -Reforming of Methane on Supported Rh and Ir Catalysts", Journal of Catalysis 164 (1996) 122-130, (no month)
WAL	BQ	Qian-Gu Yan et al., "Promoting Effect of Rare Earth Oxides On Ni/Re ₂ O ₇ -Al ₂ O ₃ Catalyst for Partial Oxidation of Methane to Synthesis Gas", Journal of Natural Gas Chemistry, Vol. 6, No. 2 (1997) 93-100, (no month)
WAL	BR	V.R. Choudhary et al., "Oxidative Conversion of Methane to Syngas over Nickel Supported on Commercial Low Surface Area Porous Catalyst Carriers Precoated with Alkaline and Rare Earth Oxides", Journal of Catalysis, Vol. 172, No. 2 (1997) 281-293, (no month)

EXAMINER

Wayne A. Langel

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8-3-06

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Form PTO-1449 (Modified)					Atty. Docket No. 1856-23101 (9595.0-01)		Serial No. 10/747,718	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)					Applicant Rafael L. Espinoza et al.			
					Filing Date December 29, 2003		Group 17591754	

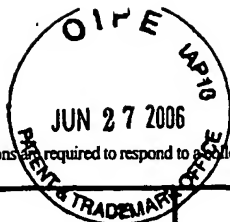
REFERENCE DESIGNATION U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
WAL	BU	6,365,544	04/02/02	Herron et al.	502	326	
WAL	BV	6,368,997	04/09/02	Herron et al.	502	302	
WAL	BW	2003/0096881	05/22/03	Minkinen et al.	518	728	

FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	Translation YES NO
WAL	BX	WO01/00595	04.01.01	WIPO	C07D	249/12	

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)		
WAL	BY	Article entitled: "Hydrodynamic characterization of slurry bubble-column reactors for Fischer-Tropsch synthesis," by N.B. Jackson et al, Advanced Energy Technology Center, Sandia National Laboratories, pp. 1226-1231 (date unknown).
WAL	BZ	Article entitled: "Non-isobaric bubble columns with variable gas velocity," by Wolf-Dieter Deckwer, Institute for Technische Chemier, Berlin, Chemical Engineering Science, Vol. 31, pp. 309-317, 1976. (no month)
WAL	CA	Article entitled: "Analysis of the design of bubble-column reactors for Fischer-Tropsch synthesis," by David Stern et al., American Chemical Society, pp. 1213-1219, 1985. (no month)
WAL	CB	Article entitled: "Bubble column reactors and Fischer-Tropsch," by S.C. Saxena, Catal. Rev. - Sci. Eng., 37(2), pp. 227-309, 1995. (no month)
WAL	CC	Article entitled: "Gas holdup in slurry bubble columns: effect of column diameter and slurry concentrations," by Rajamani Krishna et al., AIChE. Journal, Vol. 43, No. 2, pp. 311-316, February 1997.
WAL	CD	Article entitled: "Fundamentals and selection of advanced Fischer-Tropsch reactors," by S.T. Sie et al., Elsevier, Applied Catalyst A: General 186, pp. 55-70, 1999. (no month)
WAL	CE	Article entitled: "Dynamic simulation of bubbly flow in bubble columns," by Y. Pan et al., Pergamon, Chemical Engineering Science 54, pp. 2481-2489, 1999. (no month)
WAL	CF	Article entitled: "Numerical simulation of gas-liquid dynamics in cylindrical bubble column reactors," by Jayanta Sanyal et al., Pergamon, Chemical Engineering Science 54, pp. 5071-5083, 1999. (no month)
WAL	CG	Article entitled: "Gas holdup and mass transfer in bubble column reactors operated at elevated pressure," by H.M. Letzel et al., Pergamon, Chemical Engineering Science 54, pp. 2237-2246, 1999. (no month)
WAL	CH	Article entitled: "Hydrodynamic simulation of methanol synthesis in gas-liquid slurry bubble column reactors," by Yuanxiang Wu et al., Pergamon, Chemical Engineering Science 55, pp. 573-587, 2000. (no month)

EXAMINER <i>Wayne G. Fangel</i>	DATE CONSIDERED <i>8-3-06</i>
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.



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Substitute for form 1449A/PTO		Complete if Known			
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/747,718		
		Filing Date	December 29, 2003		
		First Named Inventor	Rafael L. Espinoza et al		
		Group Art Unit	1754		
		Examiner Name	Cam N. Nguyen <i>Langel</i>		
Sheet	1	of	2	Attorney Docket Number	1856-23101 (9595.0-01)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
<i>WAL</i>	AA	US-3931050	01-06-1976	Asano et al	
<i>WAL</i>	AB	US-3816344	06-11-1974	Shimizu et al	
<i>WAL</i>	AC	US-4128506	12-05-1978	Hegedus et al	
<i>WAL</i>	AD	US-4233189	11-11-1980	Gandhi et al	
<i>WAL</i>	AE	US-4376724	03-15-1983	Mita et al	
<i>WAL</i>	AF	US-4420420	12-13-1983	Mita et al	
<i>WAL</i>	AG	US-4519951	05-28-1985	Qualeatti et al	
<i>WAL</i>	AH	US-4835131	05-30-1989	DeJong	
<i>WAL</i>	AI	US-5012027	04-30-1991	Abrevaya et al	
<i>WAL</i>	AJ	US-5036032	07-30-1991	Iglesia et al	
<i>WAL</i>	AK	US-5039643	08-13-1991	Hecht et al	
<i>WAL</i>	AL	US-5352645	10-04-1994	Schwartz	
<i>WAL</i>	AM	US-5597771	01-28-1997	Hu et al	
<i>WAL</i>	AN	US-5851948	12-22-1998	Chuang et al	
<i>WAL</i>	AO	US-5900386	05-04-1999	Freund et al	
<i>WAL</i>	AP	US-6281385 B1	08-28-2001	Ruedinger et al	
<i>WAL</i>	AQ	US-2002/0035033 A1	03-21-2002	Muller et al	
<i>WAL</i>	AR	US-2002/0013227 A1	01-31-2002	Dindi et al	
<i>WAL</i>	AS	US-2002/0115730 A1	08-22-2002	Allison et al	
<i>WAL</i>	AT	US-2003/0114543 A1	06-19-2003	Zhang et al	
<i>WAL</i>	AU	US-2004/0142815 A1	07-22-2004	Ramani et al	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
WAL	BA	GB-2 310 384 A	08-27-1997	Chinese Petroleum Co.		
WAL	BB	GB-1 283 737 A	08-02-1972	National Distillers & Chemical Corp.		

Examiner Signature	<i>Wayne A. Langel</i>	Date Considered	<i>8-3-06</i>
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*EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard St.16 if possible. ⁶ Applicant is to place a check mark here if English language translation is attached.

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PTO/SB/08b (07-05)

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Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/747,718
				Filing Date	December 29, 2003
				First Named Inventor	Rafael L. Espinoza et al
				Group Art Unit	1754
Sheet	2	of	2	Examiner Name	Camel Nguyen Langel
				Attorney Docket Number	1856-23101 (9595.0-01)

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T ²
WAL	CA	HOHN, K.L. & SCHMIDT, L.D. 'Partial oxidation of methane to syngas at high space velocities over Rh-coated spheres' <i>Applied Catalysis A: General</i> , Volume 211, Issue 1, Pages 53-68 (March 2001)	
WAL	CB	E. PELUSO ET AL 'Eggshell catalyst in Fischer-Tropsch synthesis: Intrinsic reaction kinetics' <i>Chemical Engineering Science</i> , Volume 56, Issue 4, Pages 1239-1245 (February 2001)	
WAL	CC	CHANG, J-R & CHENG, C-H 'Catalytic Properties of Eggshell Pd/Al ₂ O ₃ Catalysts for Isoprene-Selective Hydrogenation: Effects of Water Poisoning' <i>Industrial & Engineering Chemistry Research</i> , volume 36, issue 10, Pages 4094 – 4099 (1997), <i>4 months</i>	
WAL	CD	IGLESIA, E. ET AL 'Synthesis and Catalytic Properties of Eggshell Cobalt Catalysts for the Fischer-Tropsch Synthesis' <i>Journal of Catalysis</i> , Volume 153, Issue 1, Pages 1-196 (April 1995)	

Examiner Signature	Wayne A. Langel	Dated Considered	8-3-06
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1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P. O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORM TO THIS ADDRESS. Send To Commissioner For Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

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